



**National
Transportation
Safety Board**

Rail Tank Car Safety Roundtable Discussion

July 13, 2016

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HAZMAT Accident Investigator

U.S. Accidents: NTSB Investigations

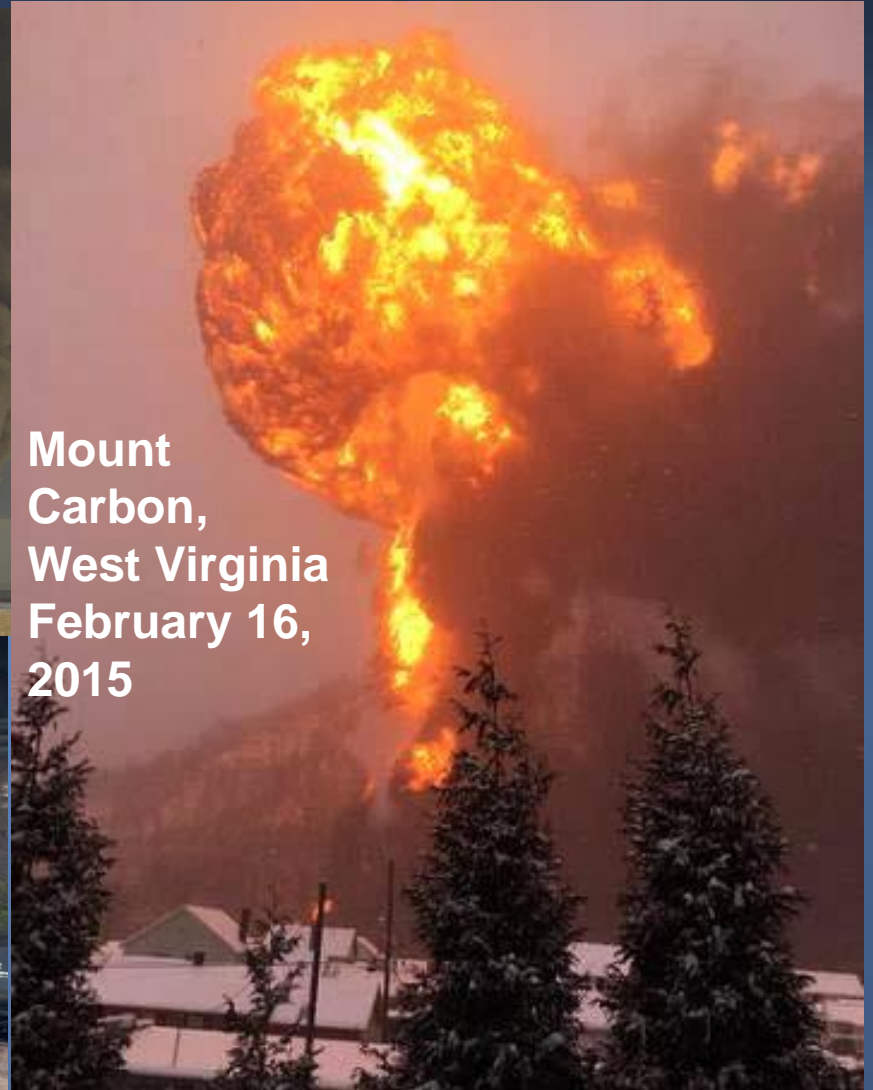
Casselton, North Dakota
December 30, 2013



Lynchburg, Virginia
April 30, 2014



Mount
Carbon,
West Virginia
February 16,
2015



Safety Issues

- Railroad operations and shipper responsibilities
 - Route planning and route selection (Railroad)
 - Track integrity (Railroad)
 - Hazardous materials classification (Shipper)
- Emergency response
 - Planning
 - Response capability
 - Awareness and training
- DOT-111 and CPC-1232 crashworthiness
 - Puncture resistance
 - Thermal resistance
 - Fittings protection

NTSB Tank Car Recommendations

- R-12-5: Enhanced tank head and shell puncture resistance and top fittings protection
- R-12-6: Redesigned bottom outlet valves to remain closed during accidents
- R-15-14: Thermal protection for tank cars transporting all Class 3 flammable liquids
- R-15-15: Appropriately sized pressure relief devices

NTSB Most Wanted List



IMPROVE RAIL TANK CAR SAFETY

NTSB Most Wanted List 2015



More crude oil and ethanol than ever is moving across America's rails. But accidents demonstrate that the tank cars moving these flammable liquids are not up to the task. It's crucial to strengthen existing rail tank cars and new rail tank car regulatory requirements.

www.nts.gov/mostwanted

Regulatory and Congressional Action



FEDERAL REGISTER

Vol. 80 Friday,
No. 89 May 8, 2015

Part II

Department of Transportation

Pipeline and Hazardous Materials Safety Administration
49 CFR Parts 171, 172, 173, et al.
Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trucks; Final Rule

- PHMSA HM-251, Enhanced Tank Car Standards and Operational Controls (May 8, 2015)

H.R. 22

One Hundred fourteenth Congress of the United States of America

AT THE FIRST SESSION

Open and held at the City of Washington on Tuesday,
the 6th day of January, two thousand and fifteen

An Act

To authorize funds for Federal aid highways, highway safety programs, and transit programs, and for other purposes.

As enacted by the Senate and House of Representatives of
the United States of America in Congress assembled

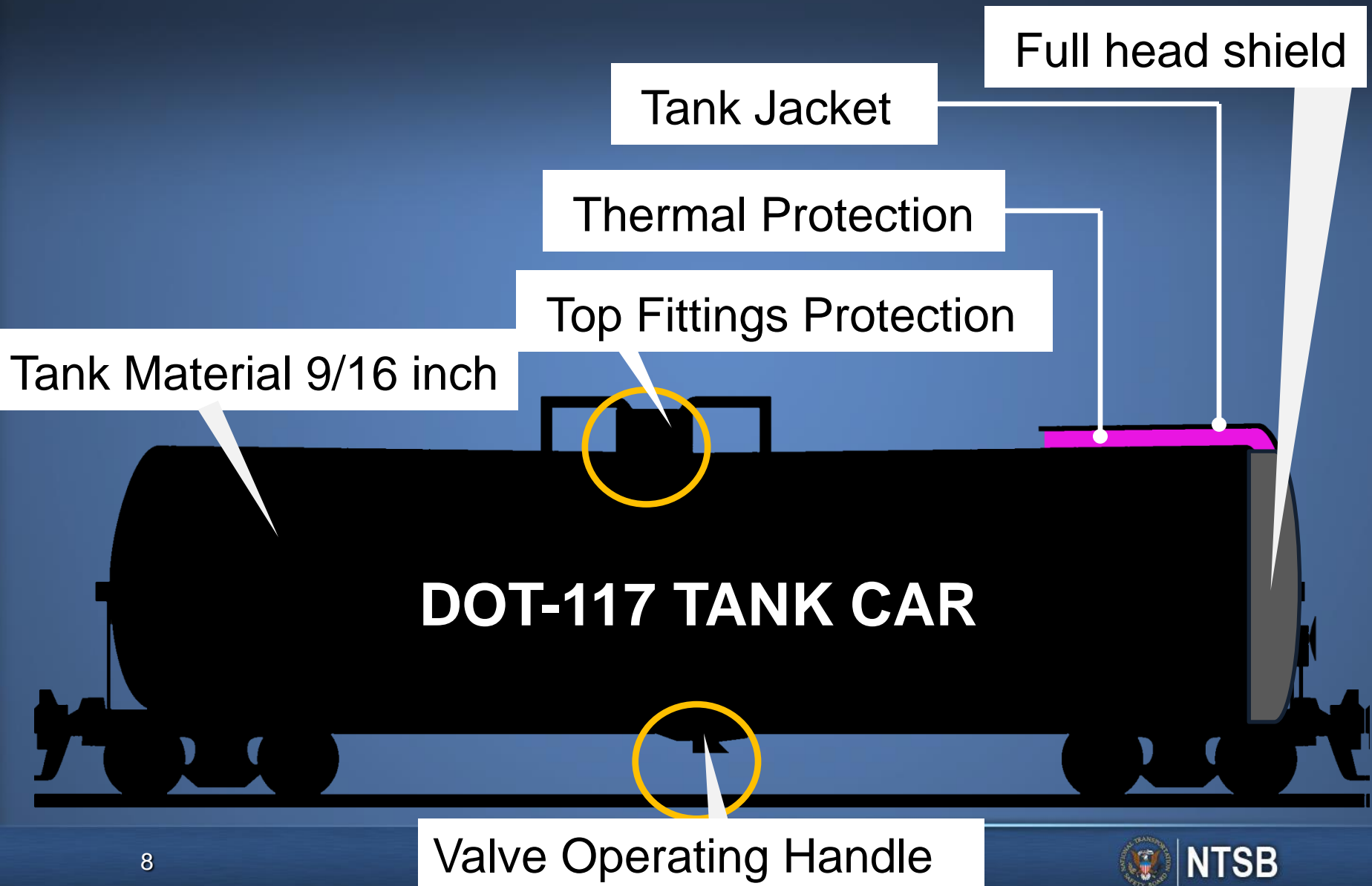
- FAST Act
(December 1, 2015)



NTSB Most Wanted List



New DOT 117 Tank Car



FAST Act Phase-Out Schedule

Commodity	Tank Car	Phase-out /Retrofit
Crude Oil		
	DOT-111 Non-jacketed	January 1, 2018
	DOT-111 Jacketed	March 1, 2018
	CPC-1232 Non-Jacketed	April 1, 2020
	CPC-1232 Jacketed	May 1, 2025
Ethanol		
	DOT-111 Jacketed & Non-Jacketed	May 1, 2023
	CPC-1232 Non-jacketed	July 1, 2023
	CPC-1232 Jacketed	May 1, 2025
Other Class 3, PG I		
	DOT-111, CPC-1232	May 1, 2025
Other Class 3, PG II & III		
	DOT-111, CPC-1232	May 1, 2029

Milestones and Public Reporting

R-15-16

Require an aggressive, intermediate progress milestone schedule, for the replacement or retrofitting of legacy DOT-111 and CPC-1232 tank cars

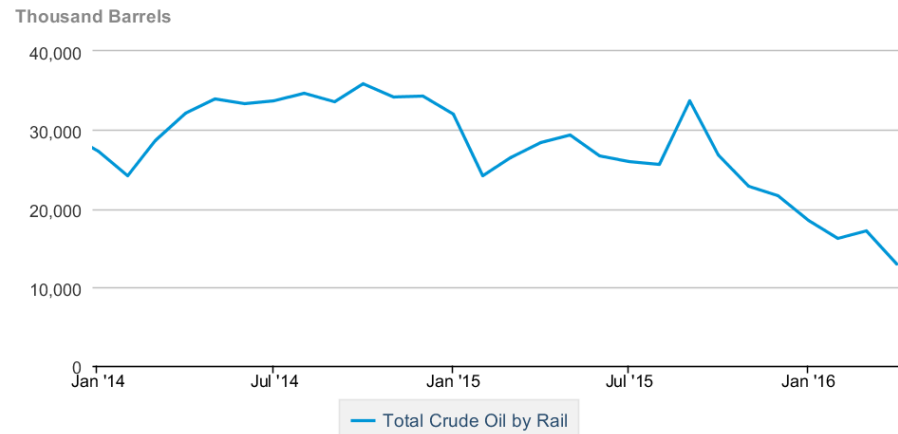
R-15-17

Establish a publicly available reporting mechanism that reports at least annually, progress on retrofitting and replacing tank cars subject to thermal protection system performance standards

Current Energy Market Conditions

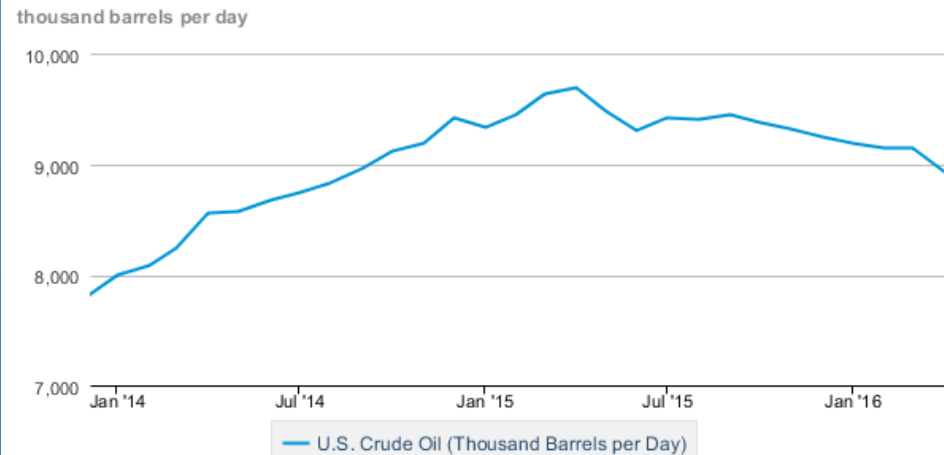
Crude Oil

Total Crude Oil by Rail



 Source: U.S. Energy Information Administration

U.S. crude oil production

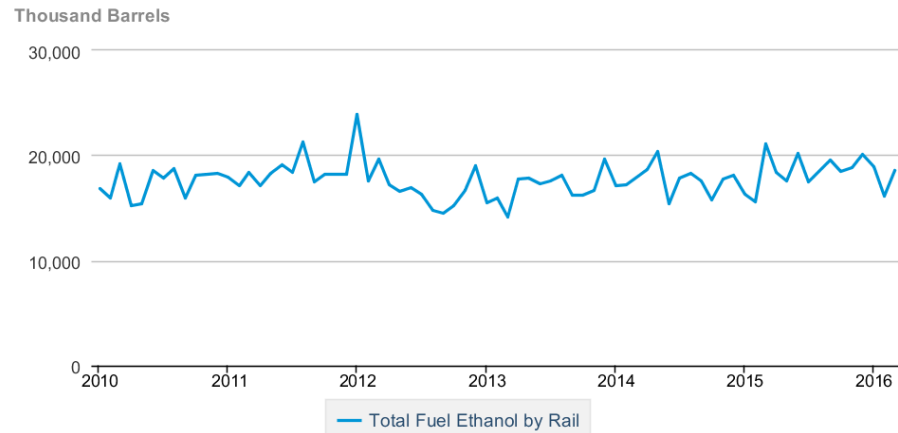


 Source: U.S. Energy Information Administration

Current Energy Market Conditions

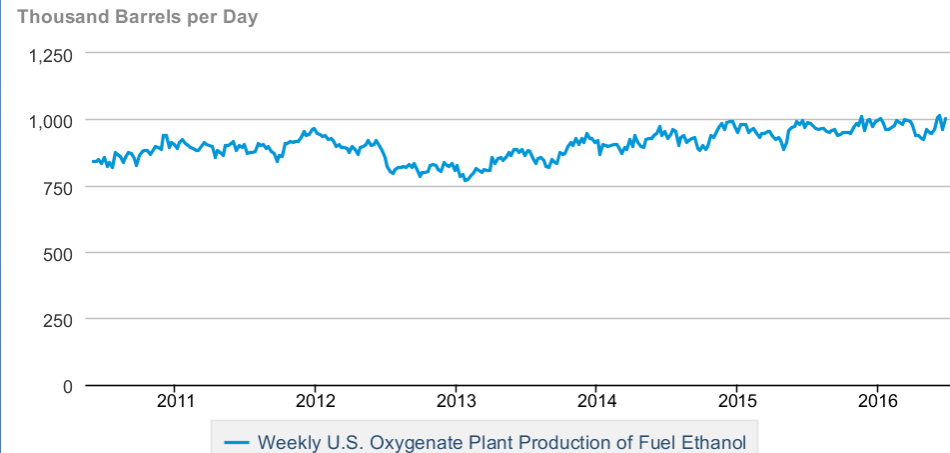
Ethanol

Total Fuel Ethanol by Rail



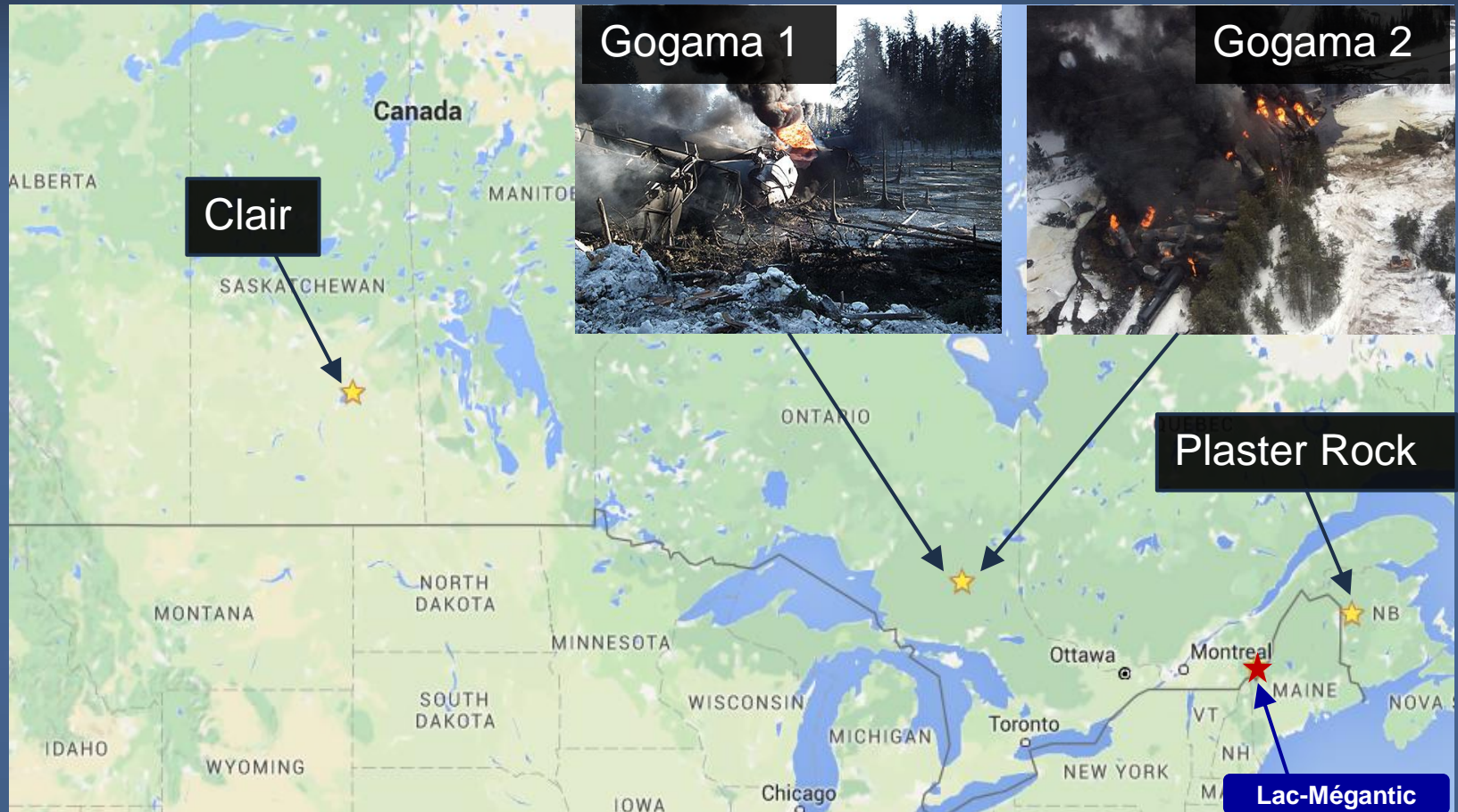
eia Source: U.S. Energy Information Administration

Weekly U.S. Oxygenate Plant Production of Fuel Ethanol



eia Source: U.S. Energy Information Administration

TSB Canada: Recs and Investigations



Assessment of Tank Car Damages

- Jacketed and insulated CPC-1232 tank cars vs. bare cars
 - Jackets did not prevent shell punctures in these accidents
 - Insufficient data to establish fire survivability of jacketed & insulated CPC-1232 cars

Rail Safety Roundtable Agenda

- Topic 1: DOT-111 and CPC-1232 retrofit/phase-out schedule monitoring and compliance.
- Topic 2: Tank car manufacturing and leasing outlook
- Topic 3: Tank car shop retrofit logistics and capacity
- Topic 4: Factors influencing tank car owner decisions to purchase new DOT-117 tank cars, and retrofit or retire their existing fleets
- Topic 5: Path forward to implement the new tank car safety standards



National Transportation Safety Board